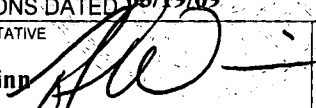


UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

# SPECIAL AIRWORTHINESS CERTIFICATE


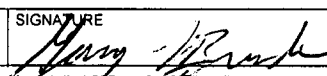
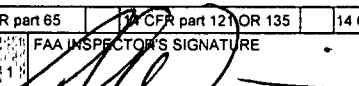
<b>A</b>	CATEGORY/DESIGNATION <b>EXPERIMENTAL (UNMANNED AIRCRAFT)</b>	
	PURPOSE <b>Research and Development / Crew Training</b>	
<b>B</b>	MANUFACTURER	NAME <b>N/A</b>
		ADDRESS <b>N/A</b>
<b>C</b>	FLIGHT	FROM <b>N/A</b>
		TO <b>N/A</b>
<b>D</b>	N- <b>374AX</b>	SERIAL NO. <b>IP05</b>
	BUILDER <b>General Atomics ASI</b>	MODEL <b>UPA97000-32</b>
<b>E</b>	DATE OF ISSUANCE <b>03/19/09</b>	EXPIRY <b>03/18/10</b>
	OPERATING LIMITATIONS DATED <b>03/19/09</b> ARE PART OF THIS CERTIFICATE	
	SIGNATURE OF FAA REPRESENTATIVE	DESIGNATION OR OFFICE NO.
	<b>Robert J. Winn</b> 	<b>ANM-108L</b>

Any alteration, reproduction or misuse of this certificate may be punishable by a fine not exceeding \$1,000 or imprisonment not exceeding 3 years, or both. THIS CERTIFICATE MUST BE DISPLAYED IN THE AIRCRAFT IN ACCORDANCE WITH APPLICABLE TITLE 14, CODE OF FEDERAL REGULATIONS (CFR).

<b>A</b>	This airworthiness certificate is issued under the authority of Public Law 104-6, 49 United States Code (USC) 44704 and Title 14 Code of Federal Regulations (CFR).
<b>B</b>	The airworthiness certificate authorizes the manufacturer named on the reverse side to conduct production flight tests, and only production flight tests, of aircraft registered in his name. No person may conduct production flight tests under this certificate: (1) Carrying persons or property for compensation or hire: and/or (2) Carrying persons not essential to the purpose of the flight.
<b>C</b>	This airworthiness certificate authorizes the flight specified on the reverse side for the purpose shown in Block A.
<b>D</b>	This airworthiness certificate certifies that as of the date of issuance, the aircraft to which issued has been inspected and found to meet the requirements of the applicable CFR. The aircraft does not meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 to the Convention On International Civil Aviation. No person may operate the aircraft described on the reverse side: (1) except in accordance with the applicable CFR and in accordance with conditions and limitations which may be prescribed by the Administrator as part of this certificate; (2) over any foreign country without the special permission of that country.
<b>E</b>	Unless sooner surrendered, suspended, or revoked, this airworthiness certificate is effective for the duration and under the conditions prescribed in 14 CFR, Part 21, Section 21.181 or 21.217.

# FAA FORM 8130-6, APPLICATION FOR U.S. AIRWORTHINESS CERTIFICATE

Form Approved O.M.B. No. 2120-0018  
09/30/2007

 U.S. Department of Transportation Federal Aviation Administration		<b>APPLICATION FOR U.S. AIRWORTHINESS CERTIFICATE</b>		<b>INSTRUCTIONS</b> - Print or type. Do not write in shaded areas; these are for FAA use only. Submit original only to an authorized FAA Representative. If additional space is required, use attachment. For special flight permits complete Sections II, VI and VII as applicable.				
		1. REGISTRATION MARK	2. AIRCRAFT BUILDER'S NAME (Make)	3. AIRCRAFT MODEL DESIGNATION	4. YR. MFR.	FAA CODING		
		N374AX	General Atomics, ASI	UPA97000-32	2004			
		5. AIRCRAFT SERIAL NO.	6. ENGINE BUILDER'S NAME (Make)	7. ENGINE MODEL DESIGNATION				
IP05	ROTAX	ROTAX 914, Fuel Injected						
8. NUMBER OF ENGINES	9. PROPELLER BUILDER'S NAME (Make)	10. PROPELLER MODEL DESIGNATION		11. AIRCRAFT IS (Check if applicable)				
One (1)	General Atomics, ASI	UPA42430-11		IMPORT				
APPLICATION IS HEREBY MADE FOR: (Check applicable items)								
A 1		STANDARD AIRWORTHINESS CERTIFICATE (Indicate Category)		<input type="checkbox"/> NORMAL <input type="checkbox"/> UTILITY <input type="checkbox"/> ACROBATIC <input type="checkbox"/> TRANSPORT <input type="checkbox"/> COMMUTER <input type="checkbox"/> BALLOON <input type="checkbox"/> OTHER				
B		SPECIAL AIRWORTHINESS CERTIFICATE (Check appropriate items)		UNMANNED AIRCRAFT				
		7. PRIMARY						
		9. LIGHT-SPORT (Indicate Class)		<input type="checkbox"/> AIRPLANE <input type="checkbox"/> POWER-PARACHUTE <input type="checkbox"/> WEIGHT-SHIFT-CONTROL <input type="checkbox"/> GLIDER <input type="checkbox"/> LIGHTER THAN AIR				
		2. LIMITED						
		5. PROVISIONAL (Indicate Class)		1. CLASS I 2. CLASS II				
		3. RESTRICTED (Indicate operation(s) to be conducted)		1. AGRICULTURE AND PEST CONTROL 2. AERIAL SURVEY 3. AERIAL ADVERTISING 4. FOREST (Wildlife Conservation) 5. PATROLLING 6. WEATHER CONTROL 0. OTHER (Specify)				
		4. EXPERIMENTAL (Indicate operation(s) to be conducted)		1. RESEARCH AND DEVELOPMENT 2. AMATEUR BUILT 3. EXHIBITION 4. AIR RACING 5. CREW TRAINING 6. MARKET SURVEY 0. TO SHOW COMPLIANCE WITH THE CFR 7. OPERATING (Primary Category) KIT BUILT AIRCRAFT				
		8. SPECIAL FLIGHT PERMIT (Indicate operation(s) to be conducted, then complete Section VI or VII as applicable on reverse side)		1. FERRY FLIGHT FOR REPAIRS, ALTERATIONS, MAINTENANCE, OR STORAGE 2. EVACUATION FROM AREA OF IMPENDING DANGER 3. OPERATION IN EXCESS OF MAXIMUM CERTIFICATED TAKE-OFF WEIGHT 4. DELIVERING OR EXPORTING 5. PRODUCTION FLIGHT TESTING 6. CUSTOMER DEMONSTRATION FLIGHTS				
C 6		MULTIPLE AIRWORTHINESS CERTIFICATE (check ABOVE "Restricted Operation" and "Standard" or "Limited" as applicable)						
A. REGISTERED OWNER (As shown on certificate of aircraft registration) IF DEALER, CHECK HERE								
NAME General Atomics, Aeronautical Systems Inc.				ADDRESS 14200 Kirkham Way Poway, CA 92064				
B. AIRCRAFT CERTIFICATION BASIS (Check applicable blocks and complete items as indicated)								
AIRCRAFT SPECIFICATION OR TYPE CERTIFICATE DATA SHEET (Give No. and Revision No.)				AIRCRAFT LISTING (Give page number(s))				
				<input checked="" type="checkbox"/> AIRWORTHINESS DIRECTIVES (Check if all applicable AD's are complied with and give the number of the last AD SUPPLEMENT available in the biweekly series as of the date of application) <input type="checkbox"/> SUPPLEMENTAL TYPE CERTIFICATE (List number of each STC incorporated)				
C. AIRCRAFT OPERATION AND MAINTENANCE RECORDS								
<input checked="" type="checkbox"/>		CHECK IF RECORDS IN COMPLIANCE WITH 14 CFR Section 91.417		TOTAL AIRFRAME HOURS 463.2		EXPERIMENTAL ONLY (Enter hours flown since last certificate issued or renewed) 0		
D. CERTIFICATION - I hereby certify that I am the registered owner (or his agent) of the aircraft described above, that the aircraft is registered with the Federal Aviation Administration in accordance with Title 49 of the United States Code 44101 et seq. and applicable Federal Aviation Regulations, and that the aircraft has been inspected and is airworthy and eligible for the airworthiness certificate requested.								
DATE OF APPLICATION March 19, 2009		NAME AND TITLE (Print or type) Gary Bender, Director of Flight Operations Facilities			SIGNATURE 			
A. THE AIRCRAFT DESCRIBED ABOVE HAS BEEN INSPECTED AND FOUND AIRWORTHY BY: (Complete the section only if 14 CFR part 21.183(d) applies.)								
2. 14 CFR part 121 CERTIFICATE HOLDER (Give Certificate No.)		3. CERTIFICATED MECHANIC (Give Certificate No.)		6. CERTIFICATED REPAIR STATION (Give Certificate No.)				
5. AIRCRAFT MANUFACTURER (Give name or firm)								
DATE		TITLE			SIGNATURE			
(Check ALL applicable block items A and B)								
A. I find that the aircraft described in Section I or VII meets requirements for				4. THE CERTIFICATE REQUESTED				
				AMENDMENT OR MODIFICATION OF CURRENT AIRWORTHINESS CERTIFICATE				
B. Inspection for a special permit under Section VII was conducted by:				<input checked="" type="checkbox"/> FAA INSPECTOR <input type="checkbox"/> FAA DESIGNEE <input type="checkbox"/> CERTIFICATE HOLDER UNDER 14 CFR part 65 <input type="checkbox"/> 14 CFR part 121 OR 135 <input type="checkbox"/> 14 CFR part 145				
DATE 3-19-09		DISTRICT OFFICE ANM-108L		DESIGNEE'S SIGNATURE AND NO.		1. FAA INSPECTOR'S SIGNATURE 		



<b>VI. PRODUCTION FLIGHT TESTING</b>	A. MANUFACTURER			
	NAME		ADDRESS	
	B. PRODUCTION BASIS <i>(Check applicable item)</i>			
			PRODUCTION CERTIFICATE <i>(Give production certificate number)</i> _____	
			TYPE CERTIFICATE ONLY	
			APPROVED PRODUCTION INSPECTION SYSTEM	
<b>VII. SPECIAL FLIGHT PERMIT PURPOSES OTHER THAN PRODUCTION FLIGHT TEST</b>	C. GIVE QUANTITY OF CERTIFICATES REQUIRED FOR OPERATING NEEDS			
	DATE OF APPLICATION		NAME AND TITLE <i>(Print or Type)</i>	
			SIGNATURE	
	A. DESCRIPTION OF AIRCRAFT			
	REGISTERED OWNER		ADDRESS	
	BUILDER <i>(Make)</i>		MODEL	
	SERIAL NUMBER		REGISTRATION MARK	
	B. DESCRIPTION OF FLIGHT			
	FROM		TO	
	VIA		DEPARTURE DATE	
			DURATION	
	C. CREW REQUIRED TO OPERATE THE AIRCRAFT AND ITS EQUIPMENT			
	PILOT	CO-PILOT	FLIGHT ENGINEER	OTHER <i>(Specify)</i>
D. THE AIRCRAFT DOES NOT MEET THE APPLICABLE AIRWORTHINESS REQUIREMENTS AS FOLLOWS:				
E. THE FOLLOWING RESTRICTIONS ARE CONSIDERED NECESSARY FOR SAFE OPERATION: <i>(Use attachment if necessary)</i>				
F. CERTIFICATION - I hereby certify that I am the registered owner (or his agent) of the aircraft described above, that the aircraft is registered with the Federal Aviation Administration in accordance with Title 49 of the United States Code 44101 <u>et seq.</u> , and applicable Federal Aviation Regulations, and that the aircraft has been inspected and is safe for the flight described.				
DATE		NAME AND TITLE <i>(Print or Type)</i>		SIGNATURE
<b>VIII. AIRWORTHINESS DOCUMENTATION (FAA-DESIGNEE use only)</b>	<input checked="" type="checkbox"/> A. Operating Limitations and Markings in Compliance with 14 CFR Section 91.9, as applicable.		G. Statement of Conformity, FAA Form 8130-9 <i>(Attach when required)</i>	
	<input checked="" type="checkbox"/> B. Current Operating Limitations Attached		H. Foreign Airworthiness Certification for Import Aircraft <i>(Attach when required)</i>	
	<input checked="" type="checkbox"/> C. Data, Drawings, Photographs, etc. <i>(Attach when required)</i>		I. Previous Airworthiness Certificate Issued in Accordance with 14 CFR Section _____ CAR _____ <i>(Original Attached)</i>	
	<input checked="" type="checkbox"/> D. Current Weight and Balance information Available in Aircraft <u>GCS</u>		J. Current Airworthiness Certificate Issued in Accordance with 14 CFR Section <u>91.191(a)(1)(C)</u> <i>(Copy Attached)</i>	
	<input checked="" type="checkbox"/> E. Major Repair and Alteration, FAA Form 337 <i>(Attach when required)</i>		K. Light-Sport Aircraft Statement of Compliance, FAA Form 8130-15 <i>(Attach when required)</i>	
	<input checked="" type="checkbox"/> F. This inspection Recorded in Aircraft Records <u>COPY ATTACHED</u>			





AIRCRAFT/EQUIPMENT S/N		FLIGHT #	ORIGINATOR	DISC	DATE	NCR #	FDR #
DISCREPANCY:							
CORRECTIVE ACTION:							
I FIND THIS U.A.S. MEETS THE REQ'S FOR THE CERTIFICATION REQUESTED AND HAVE ISSUED A SPECIAL AW/CERT DTD: 3-19-09. THE OPERATION OF THIS U.A.S. IS CONTINGENT UPON CA-ASI COMPLIANCE WITH ASI-03009 REV. B AND THE OPERATING LIMITATIONS OF THIS AW/CERT. A NEW CONDITION INSPECTION IS REQ'D PRIOR TO ISSUANCE OF ANOTHER SPECIAL AW/CERT.							
DISPOSITION:							
PARTS REMOVED							
PART NUMBER		REV	SERIAL NUMBER	NOMENCLATURE		SERIAL TRACK #	HOURS/CYCLES
A							
B							
C							
D							
E							
PAR							HOURS/CYCLES
A							
B							
C							
D							
E							
AVIONICS PRE / F							NE HOBBS E / POST
CORRECT							EMPLOYEE NUMBER
WORK OF							
SERIAL NUMBER		SYSTEM/REASON		UP	DOWN	PRTS #	







# GENERAL ATOMICS AERONAUTICAL SYSTEMS

## AIRCRAFT MAINTENANCE RECORD

AIRCRAFT/EQUIPMENT S/N <b>IP05</b>	FLIGHT # <b>-</b>	ORIGINATOR <b>Markowitz</b>	DISC <b>I</b>	DATE <b>3-9-09</b>	NCR #	FDR #
DISCREPANCY:						
<b>AIR DATA and ALTITUDE reporting (mode C) certification is required.</b>						
CORRECTIVE ACTION:						
<b>AIR DATA and ALTITUDE reporting SYSTEMS certified by High Desert Avionics</b>						
High Desert Avionics FAA Approved Repair Station #HD7R252J A/C: IP05 / UPA97000-32 N#: N374AX ATC Transponder & Altitude reporting system has been tested & inspected in accordance with Part 43 Appendix E, and F. I certify the Transponder, Altitude reporting, Static systems, and interrogation test required by FAR 91.411, 91.413 have been performed. The altitude reporting system has been tested to 25,000 feet.						
Signed: <div style="float: right; text-align: right;">           I certify that this UAS was inspected on <b>3/9/09</b> in accordance with the scope and detail of the GA-ASI Inspection and Maintenance Program, and was found to be in a condition for safe operation.            Total time in service <b>42 sys hrs</b>            Name <b>LESTER HOWE</b>            Signature  Cert# <b>HA-P 2647199</b> </div>						
OVED						
	PART NUMBER	REV	SERIAL NUMBER	NOMENCLATURE	SERIAL TRACK #	HOURS/CYCLES
A						
B						
C						
D						
E						
PARTS INSTALLED						
	PART NUMBER	REV	SERIAL NUMBER	NOMENCLATURE	SERIAL TRACK #	HOURS/CYCLES
A						
B						
C						
D						
E						
AVIONICS HOBBS PRE / POST <b>42 / 42</b>	AIRCRAFT CLEARED FOR FLIGHT <input checked="" type="checkbox"/> <b>TOOLS AND MAINTENANCE ITEMS ACCOUNTED FOR</b>				ENGINE HOBBS PRE / POST <b>10 / 10</b>	
CORRECTED BY 	EMPLOYEE NUMBER <b>56875</b>	DATE <b>3-9-09</b>	INSPECTED BY 		EMPLOYEE NUMBER <b>601276</b>	
WORK ORDER #	PROJECT NUMBER			LOCATION <b>EL MIRAGE</b>		
SERIAL NUMBER <b>145191</b>	SYSTEM/REASON <b>AIR DATA TEST.</b>		UP <input checked="" type="checkbox"/>	DOWN <input type="checkbox"/>	PRTS #	





Los Angeles Manufacturing Inspection District Office  
3960 Paramount Blvd.  
Lakewood, CA 90712

**Operating Limitations  
Experimental: Research and Development,  
and/or Crew Training**

<b>REGISTERED OWNER NAME:</b> GENERAL ATOMICS AERONAUTICAL SYSTEMS, INC.	<b>AIRCRAFT BUILDER:</b> GENERAL ATOMICS AERONAUTICAL SYSTEMS, INC.
<b>REGISTERED OWNER ADDRESS:</b> 16761 VIA DEL CAMPO CT SAN DIEGO, CA 92127	<b>AIRCRAFT SERIAL NUMBER:</b> IP05
<b>AIRCRAFT DESCRIPTION:</b> ITALIAN PREDATOR UNMANNED AIRCRAFT FIXED WING	<b>AIRCRAFT MODEL DESIGNATION:</b> ITALIAN PREDATOR, UPA97000-32
<b>AIRCRAFT REGISTRATION:</b> N374AX	<b>ENGINE MODEL:</b> Rotax 914, Fuel Injected
<b>YEAR MANUFACTURED:</b> 2004	<b>PROPELLER MODEL:</b> UPA42430-11, General Atomics

The following conditions and limitations apply to all flight operations for the General Atomics Aeronautical Systems, Inc., (GA-ASI) Italian Predator unmanned aircraft system (UAS) while operating in the National Airspace System (NAS).

**1. General Information.**

**a. Integrated system.** For the purposes of this special airworthiness certificate and operating limitations, the Italian Predator Unmanned Aircraft System (UAS) operated by GA-ASI is considered to be an integrated system. The system is composed of the following:

- (1) Italian Predator unmanned aircraft, model UPA97000-32.
- (2) UAS control station(s), fixed, mobile, ground-based, or airborne.
- (3) Telemetry, launch, and recovery equipment.



(4) Communications and navigation equipment, including ground and/or airborne equipment used for command and control of the Italian Predator UAS.

(5) Equipment on the ground and in the air used for communication with the chase aircraft, other members of the flight crew, observers, air traffic control (ATC), and other users of the NAS.

**b. Compliance with 14 CFR part 61 (Certification: Pilots, Flight Instructors, and Ground Instructors) and part 91 (General Operating and Flight Rules).** Unless otherwise specified in this document, the UA pilot-in-command (PIC) and GA-ASI must comply with all applicable sections and parts of 14 CFR including, but not limited to, parts 61 and 91.

**c. Operational requirements.**

(1) No person may operate this UAS for other than the purpose of research and development and/or crew training, to accomplish the flight operation outlined in GA-ASI Program Letter dated 03/16/2009, which describes compliance with § 21.193(d), Experimental certificates: General, and has been made available to the UA PIC.

(2) This UAS must be operated in accordance with applicable air traffic and general operating rules of part 91 and all additional limitations herein prescribed under the provisions of § 91.319(i), Aircraft having experimental certificates: Operating limitations.

(3) GA-ASI must show that this UAV has accumulated at least 50 flight hours before customer crew training is permitted, in accordance with § 21.195(d).

**d. UA condition.** The UA PIC must determine that the UA is in a condition for safe operation, and in a configuration appropriate for the purpose of the intended flight.

**e. Multiple-purpose operations.** When changing between operating purposes of a multiple purpose certificate, GA-ASI must determine that the aircraft is in a condition for safe operation and appropriate for the purpose intended. A record entry will be made by an appropriately rated person (that is, an individual authorized by the applicant and acceptable to the FAA) to document that finding in the maintenance records.

**f. Operation exceptions.** No person may operate this UA to carry property for compensation or hire (§ 91.319(a)(2)).

**g. UA markings.**

(1) This UA must be marked with its U.S. registration number in accordance with part 45 or alternative marking approval issued by the FAA Production and Airworthiness Division, AIR-200.

(2) This UA must display the word *Experimental* in accordance with § 45.23(b), Display of marks, unless otherwise granted an exemption from this requirement.

**h. Required documentation.** Prior to conducting the initial flight operations, GA-ASI must forward a scanned electronic copy of the Program Letter, and signed copies of the Special Airworthiness Certificate, and Operating Limitations to the following persons by email:

(1) FAA Western Terminal Service Area, Debra Trindle, Air Traffic Representative, at [debra.trindle@faa.gov](mailto:debra.trindle@faa.gov), telephone (623) 856-9596 Airspace Branch, AWP-520.



(2) Richard Posey, Aviation Safety Inspector, Production and Airworthiness Division, AIR-200, 800 Independence Ave, SW, Washington, DC 20591, telephone (202) 267-9538, email [richard.posey@faa.gov](mailto:richard.posey@faa.gov).

i. **Change in registrant address.** Section 47.45, Change of address, requires that the FAA Aircraft Registry be notified within 30 days of any change in the aircraft registrant's address. Such notification is to be made by providing AC Form 8050-1, Aircraft Registration Application, to the FAA Aircraft Registration Branch (AFS-750) in Oklahoma City, Oklahoma.

j. **Certificate display and manual availability.** The airworthiness and registration certificates must be displayed, and the aircraft flight manual must be available to the pilot, as prescribed by the applicable sections of 14 CFR, or as prescribed by an exemption granted in accordance with 14 CFR part 11, General Rulemaking Procedures, to GA-ASI.

2. **Program Letter.** The GA-ASI Italian Predator Program Letter, dated 03/16/2009, will be used as a basis for determining the operating limitations prescribed in this document. All flight operations must be conducted in accordance with the provisions of this document.

3. **Fight Test Program.** The flight test program is defined in UPA97000-32, Acceptance Test Plan for the Predator A Unmanned Aerial Vehicle. The purpose of the flight test plan is to conduct flight tests prior to returning the aircraft to the Italian Ministry of Defense.

#### 4. **Authorized Flight Operations Area.**

a. **General.** All operations will be conducted in accordance with the FAA accepted GA-ASI Flight Operations Procedures, ASI-00009 (Civil), and GA-ASI Ground Operations Procedures, ASI-00056 (Civil).

b. **Description of the authorized flight operations area.** The base of operations for the UAS shall be Gray Butte Field, Palmdale, CA and El Mirage Field, Adelanto, CA.

c. **Flight test area.** The flight operations area authorized for the Italian Predator UA will be referred to as the Primary Containment Area (PCA) and is depicted graphically below. Flight operations in the PCA shall be conducted within the defined boundaries at or below 13,000 ft MSL. When operating in a terminal environment, the UA must have line of sight communications. Flight operations shall not be conducted within the Victorville (KVCV) Class D airspace. The PCA is identified as follows:





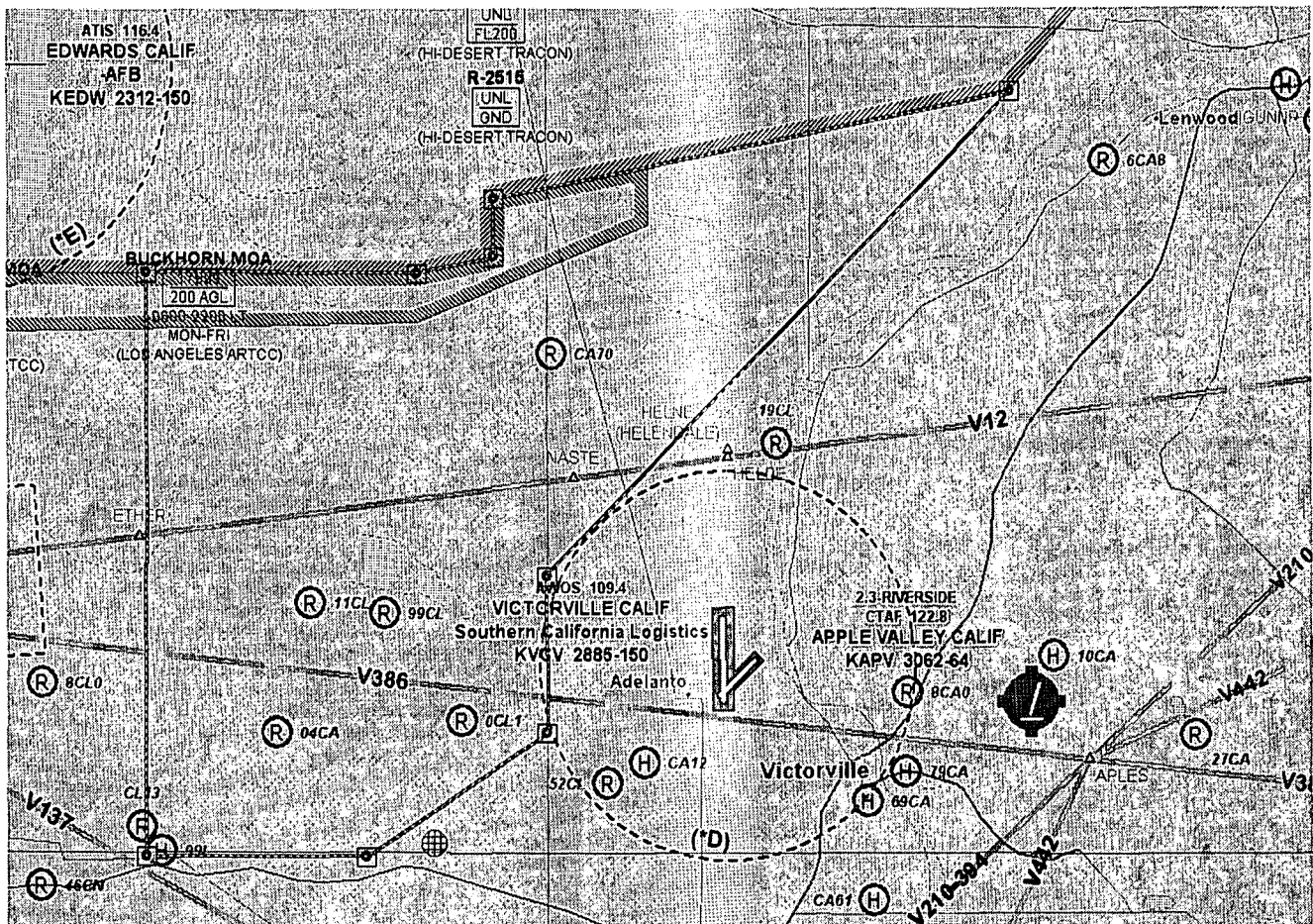


Figure 2: Primary Containment Area

N 34° 30.0'	W 117° 37.0'
N 34° 30.0'	W 117° 45.5'
N 34° 48.0'	W 117° 45.5'
N 34° 48.0'	W 117° 35.0'
N 34° 48.5'	W 117° 32.0'
N 34° 50.3'	W 117° 32.0'
N 34° 53.5'	W 117° 11.9'
N 34° 38.6'	W 117° 30.0'
N 34° 33.8"	W 117° 30.0'

**d. Authorized flight times and conditions.** All flight operations must be conducted during daylight hours under visual flight rules (VFR). It is recognized that General Atomics may be permitted to operate within Special Use Airspace (SUA) per authorization of the using agency. Under these circumstances, should the UA venture beyond the boundaries of the SUA (e.g., spill out), provisions of this experimental certificate shall apply, including authorization to only operate within the boundaries of the PCA. In these circumstances, General Atomics is responsible for notifying the FAA of the breach of any operations.



**e. Criteria for remaining in the flight test area.** The UAS PIC must ensure all UA flight operations remain within the lateral and vertical boundaries of the PCA. Furthermore, the UAS PIC must take into account all factors that may affect the capability of the UA to remain within the flight test area. This includes, but is not limited to, considerations for wind, gross weight, and glide distances.

**f. Incident/accident reporting.** Any incident/accident and any flight operation that transgresses the lateral or vertical boundaries of the flight test area or any restricted airspace must be reported to the FAA within 24 hours. This information must be reported to the Unmanned Aircraft Program Office, AIR-160. AIR-160 can be reached by telephone at 202-385-4636 and fax at 202-385-4651. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: [www.nts.gov](http://www.nts.gov). Further flight operations must not be conducted until the incident is reviewed by AIR-160 and authorization to resume operations is provided to GA-ASI.

**5. Flight Testing.** Flight test operations shall be divided into 2 phases:

**a. Phase 1.**

(1) Shall be conducted within visual line of sight of the pilot/observer.

(2) Shall be within 5 statute miles of the airport for the first 5 flight hours, after which the radius may be expanded to 10 statute miles.

(3) During Phase 1 flight testing, the aircraft may not be controlled by satellite communications for the first 10 flight hours. A minimum of 1 flight hour shall be demonstrated under satellite control prior to exiting Phase 1.

**NOTE:** Operation of satellite communications is at the discretion of General Atomics. If satellite communications is demonstrated during Phase II, paragraph 5(a)(3) applies within 10 statute miles of the airport.

(4) Fuel load shall be limited to 150 pounds (approximately 6 hours), this includes a reserve required by 14 CFR 91.151.

(5) Initial Phase 1 flight testing shall be completed upon accumulation of 12 flight hours. Following satisfactory completion of Phase I flight testing, the flight operations director or chief pilot must certify in the records that the aircraft has been shown to comply with § 91.319(b). Compliance with § 91.319(b) must be recorded in the aircraft records with the following, or a similarly worded, statement:

**"I certify that the prescribed flight test hours have been completed and the aircraft is controllable throughout its normal range of speeds and throughout all maneuvers to be executed, has no hazardous operating characteristics or design features, and is safe for operation. The following aircraft operating data has been demonstrated during the flight testing: speeds V<sub>so</sub> \_\_\_\_\_, V<sub>x</sub> \_\_\_\_\_, and V<sub>y</sub> \_\_\_\_\_."**

**b. Phase 2 flight-testing** authorizes flight in the PCA and the Edwards ranges. Fuel shall be limited to that necessary to complete the intended mission plus 50 pounds.



## **6. UA Pilots and Observers.**

### **a. UA PIC roles and responsibilities.**

(1) All flight operations must have a designated UA PIC. The UA PIC has responsibility over each flight conducted and is accountable for the UA flight operation.

(2) The UA PIC must perform crew duties for only one UA at a time.

(3) The UA PIC is responsible for the safety of the UA as well as persons and property along the UA flight path. This includes, but is not limited to, collision avoidance and the safety of persons and property in the air and on the ground.

(4) The UA PIC must avoid densely populated areas (§ 91.319) and exercise increased vigilance when operating within or in the vicinity of published airway boundaries.

### **b. UA PIC certification and ratings requirements.**

(1) UA pilots shall hold, at a minimum, an FAA Private Pilot certificate, Instrument Rating, Airplane category with Single or Multiengine class ratings, and have it in their possession.

(2) The UA PIC must have and be in possession of a valid second-class (or higher) airman medical certificate issued under 14 CFR part 67, Medical Standards and Certification.

### **c. UA PIC currency, flight review, and training.**

(1) No person may act as pilot in command of an unmanned aircraft unless that person has made at least three takeoffs and three landings in manned aircraft within the preceding 90 days acting as the sole manipulator of the flight controls.

(2) The UA PIC must maintain currency in unmanned aircraft in accordance with GA-ASI company procedures.

(3) The UA PIC must have a flight review in unmanned aircraft every 24 calendar months in accordance with GA-ASI company procedures.

(4) All UA PICs must have successfully completed applicable GA-ASI company training for the UAS.

(5) Training of UA pilots shall be conducted by certified flight instructors (CFI) or ground instructors (GI). Required training and currency events shall be endorsed by the CFI/GI in company records and the pilot's logbook. Instructors shall follow the guidance specified in 14 CFR 61, Subpart H and Subpart I and shall maintain currency in accordance with these sections.

### **d. Supplemental UA pilot roles and responsibilities.**

(1) Any additional UA pilot(s) assigned to a crew station during UA flight operations will be considered a supplemental UA pilot.

(2) A supplemental UA pilot assists the PIC in the operation of the UA and may do so at the same or a different control station as the PIC. The UA PIC will have operational override capability over any supplemental UA pilots, regardless of position.

(3) A supplemental UA pilot must perform crew duties for only one UA at a time.



**e. Supplemental UA pilot certification.** The supplemental UA PIC need not be a certificated pilot, but must have successfully completed a recognized private pilot ground school program.

**f. Supplemental UA pilot currency, flight review, and training.**

(1) All UA pilots must maintain currency in unmanned aircraft in accordance with GA-ASI company procedures.

(2) All UA pilots must have a flight review in unmanned aircraft every 24 calendar months in accordance with GA-ASI company procedures.

(3) All UA pilots must have successfully completed applicable GA-ASI training for the UAS.

(4) Training of UA pilots shall be conducted by certified flight instructors (CFI) or ground instructors (GI). Required training and currency events shall be endorsed by the CFI/GI in company records and the pilot's logbook. Instructors shall follow the guidance specified in 14 CFR 61, Subpart H and Subpart I and shall maintain currency in accordance with these sections.

**g. Observer roles and responsibilities.** The task of the observer is to provide the UA PIC with instructions to maneuver the UA clear of any potential collision with other traffic. To satisfy these requirements:

(1) The observer must perform crew duties for only one UA at a time.

(2) At no time will the observer permit the UA to operate beyond the line-of-sight necessary to ensure maneuvering information can be reliably determined.

(3) At no time will the observer conduct his/her duties more than 2.0 statute miles laterally or 3000 ft vertically from the UA.

(4) An observer must maintain visual contact with the UA to discern UA attitude and trajectory in relation to conflicting traffic.

(5) An observer may be positioned in a chase aircraft. When a chase aircraft is used, it must maintain a reasonable proximity, and must position itself relative to the UA to reduce the hazard of collision in accordance with § 91.111, Operating near other aircraft. When the observer is located in a chase aircraft, the observer's duties must be dedicated to the task of observation only. Concurrent duty as pilot of the chase aircraft is not authorized.

(6) Observers must continually scan the airspace for other aircraft that pose a potential conflict.

(7) All flight operations conducted in the flight test area must have an observer to perform traffic avoidance and visual observation to fulfill the see-and-avoid requirement of § 91.113, Right-of-way rules: Except water operations.





#### **h. Observer certification.**

(1) All observers must either hold, at a minimum, an FAA private pilot license or military equivalent, or must have successfully completed specific observer training acceptable to the FAA. An observer does not require currency as a pilot.

(2) All observers must have in their possession a valid second-class (or higher) airman medical certificate issued under part 67.

#### **i. Observer training.**

(1) All observers must be thoroughly trained, be familiar with, and possess operational experience with the equipment being used. Such training is necessary for observation and detection of other aircraft for collision avoidance purposes as outlined in GA-ASI program letter.

(2) All observers must have successfully completed applicable GA-ASI training for the UAS.

**j. Training and currency records.** The training and currency requirements for pilots and observers listed in this section must be documented by GA-ASI in the individual pilot/observers personnel records and made available for inspection upon request by the FAA.

### **7. Equipage.**

**a.** The UAS shall be equipped with an operable Mode-C transponder and two-way communications equipment allowing communications between the UA pilot, chase aircraft, observers, all UAS control stations, and Air Traffic Control.

**b.** The UA and chase aircraft shall be equipped with operable navigation, position, and strobe/anti-collision lights.

### **8. Communications.**

#### **a. Before UA flights.**

(1) Before conducting operations, the frequency spectrum used for operation and control of the UA must be approved by the Federal Communications Commission or other appropriate government oversight agency.

(2) Each UAS Flight operation must be coordinated by telephone with High Desert TRACON and receive a transponder code at (661) 277-3843, at least 2 hours prior to the start of the flight operation.

#### **b. During UA flights.**

(1) Upon initial contact with ATC, the PIC must indicate the experimental nature of the aircraft in accordance with 14 CFR § 91.319.



(2) The UA PIC must maintain two-way radio communication with ATC. In addition, if a chase aircraft is utilized, the chase aircraft pilot shall maintain two-way radio communication with the UA PIC and an active listening watch on the assigned ATC frequency. Should the UAS experience communication difficulty or failure, the chase aircraft will assume responsibility for two-way radio communication with ATC for the flight. ***The UAS shall remain within 2.5 nm and 1500' AGL of the El Mirage or Gray Butte airport when conducting local traffic pattern operations and shall remain within the specified observer distances. While in the traffic pattern instantaneous two-way radio communications with ATC are not required.***

(3) The PIC and observer(s) must maintain two-way communications with each other during all operations.

(4) If communications cannot be maintained between the PIC, chase aircraft pilot, observer(s) and appropriate ATC facility, the UA will squawk 7600-transponder code, expeditiously return to its base of operations while remaining within the containment area, and conclude the flight operation.

(5) ***Prior to flight, the UAS flight operations schedule for N374AX must be provided to Mr. Cotry Shearill, at email [cotry.shearrill@faa.gov](mailto:cotry.shearrill@faa.gov), at the Van Nuys FSDO.***

## 9. Flight Conditions.

**a. Daylight operations.** All flight operations must be conducted between official sunrise and sunset in visual meteorological conditions (VMC), including cloud clearance minimums as specified in § 91.155, Basic VFR weather minimums. Flight operation in instrument meteorological conditions (IMC) is not permitted.

### b. Prohibitions.

(1) The UA is prohibited from aerobatic flight, that is, an intentional maneuver involving an abrupt change in the UA attitude, an abnormal acceleration, or other flight action not necessary for normal flight. (See § 91.303.)

(2) Flight operations must not involve carrying hazardous material or the dropping of any objects or external stores.

(3) The UA may not be operated by more than one control station at a time, and the control station may not be used to operate multiple UA.

### c. Transponder requirements.

(1) The UA must operate an altitude encoding transponder Mode C in accordance with applicable guidelines and procedures.

(2) Chase aircraft transponders must be on standby while performing chase operations flight with the UA unless otherwise directed by ATC.

### d. Transponder failure.

(1) In the event of transponder failure on either the UA or the chase aircraft, the UA must conclude all flight operations and expeditiously return to its base of operations within the prescribed limitations of this authorization.



(2) In the event of UA transponder failure, a chase aircraft will operate its transponder in Mode C.

# **10. Flight Termination and Lost Link Procedures.**

**a. Flight termination.** In accordance with GA-ASI Program Letter, dated 03/16/2009, flight operations must be discontinued at any point that operation within the approved flight area(s) is breached or the UA can no longer be operated in a safe manner.

**b. Lost link procedures.** In the event of lost link, the UA must provide a means of automatic recovery that ensures airborne operations are predictable and that the UA remains within the flight test area. The chase aircraft or observer, all other UAS control stations, and the appropriate ATC facility will be immediately notified of the lost link condition and the expected UA response.

# **11. Maintenance and Inspection.**

**a. General requirements.** The UAS must not be operated unless it is inspected and maintained in accordance with the General Atomics Italian Predator Inspection and Maintenance Program ASI-02354-WC-2 dated 11/04/2008 and ASI-01176-B-2-5INSP-1 dated 09/16/2008, or later FAA approved revision. GA-ASI must establish and maintain aircraft maintenance records (see paragraph 11(d) below).

**b. Inspections.** No person may operate this UAS unless within the preceding 12 calendar months it has had a condition inspection performed according to the FAA approved General Atomics Italian Predator Inspection and Maintenance Program ASI-02354-WC-2 dated 10/28/2008 and ASI-01176-B-2-5INSP-1 dated 09/16/2008, or later FAA approved revision. The UAS must also have been found to be in a condition for safe operation. This inspection will be recorded in the UAS maintenance records as described in paragraph 11(d) below.

**c. Authorized inspectors.** Only those individuals trained and authorized by GA-ASI and acceptable to the FAA may perform the inspections and maintenance required by these operating limitations.

**d. Maintenance and inspection records.** Maintenance and inspections of the UAS must be recorded in the UAS maintenance records. The following information must be recorded:

(1) Maintenance record entries must include a description of the work performed, the date of completion for the work, the UAS total time-in-service, and the name, signature, and certificate number of the person accepting the work performed.

(2) Inspection entries must contain the following, or a similarly worded, statement: *I certify that this UAS was inspected on (date), in accordance with the scope and detail of the GA-ASI Inspection and Maintenance Program, and was found to be in a condition for safe operation.*

(3) UAS instruments and equipment required to be installed must be inspected and maintained in accordance with the requirements of the General Atomics Italian Predator Inspection and Maintenance Program ASI-02354-WC-2 dated 10/28/2008 and ASI-01176-B-2-5INSP-1 dated 09/16/2008 or later FAA accepted revision. Any maintenance or inspection of this equipment must be recorded in the UAS maintenance records.



(4) No person may operate this UAS unless the altimeter system and transponder have been tested within the preceding 24 calendar months in accordance with § 91.411, Altimeter system and altitude reporting equipment tests and inspections, and § 91.413, ATC transponder tests and inspections. These inspections will be recorded in the UAS maintenance records.

**12. Information Reporting.** General Atomics shall provide the following information to [donald.e.grampp@faa.gov](mailto:donald.e.grampp@faa.gov) on a monthly basis.

- a. Number of flights conducted under this certificate.
- b. Pilot duty time per flight.
- c. Unusual equipment malfunctions (hardware or software).
- d. Deviations from ATC instructions.
- e. Unintended entry into lost link flight mode that results in a course change.

**13. Revisions and Other Provisions.**

**a. Experimental certificates, program letters, and operating limitations.** The experimental certificate, FAA-accepted GA-ASI program letter, and operating limitations cannot be reissued, renewed, or revised without application being made to the Los Angeles Manufacturing Inspection District Office (LA MIDO), in coordination with AIR-200. AIR-200 will be responsible for FAA Headquarters internal coordination with the Aircraft Certification Service, Flight Standards Service, Air Traffic Organization, Office of the Chief Council, and Office of Rulemaking.

**b. Certificates of waiver or authorization.** GA-ASI shall immediately notify the Production and Airworthiness Division, AIR-200, and the LA MIDO, if there is any plan for requesting a Certificate of Authorization or Waiver (COA) for UAS operations during the time the experimental certificate is in effect. An entry in the aircraft logbook is required to document that the aircraft flight authority has been changed from the experimental certificate to COA. When COA operations are concluded and the aircraft resumes flying under the experimental certificate, a record entry will be made in the aircraft logbook by an appropriately rated person to document that the aircraft is in a condition for safe operation and appropriately configured.

**c. Amendments and cancellations.** The provisions and limitations annotated in this operational approval may be amended or cancelled at any time as deemed necessary by the FAA.

**d. Reviews of revisions.** All revisions to GA-ASI FAA-approved Maintenance and Inspection Program must be reviewed and approved by the Van Nuys Flight Standards District Office.





**14. UAS Modifications.**

**a. Software and system changes.** All software and system changes will be documented as part of the normal maintenance procedures and will be available for inspection. All software and system changes must be inspected and approved in accordance with the General Atomics Italian Predator Inspection and Maintenance Program ASI-02354-WC-2 dated 10/28/2008 and ASI-01176-B-2-5INSP-1 dated 09/16/2008, or later FAA approved revision. All software changes to the aircraft and control station are categorized as major changes, and must be provided in summary form at the time they are incorporated.

**b. Major modifications.** All major modifications, whether performed under the experimental certificate, COA, or other authorizations, that could potentially affect the safe operation of the system, must be documented and provided to the FAA before operating the aircraft under this certificate. Major modifications incorporated under COA or other authorizations must be provided only if the aircraft is flown under these authorizations during the effective period of the experimental certificate.

**c. Submission of modifications.** All information requested must be provided to AIR-200.

End of Limitations



Robert J. Winn  
Los Angeles Manufacturing Inspection District Office  
3960 Paramount Blvd.  
Lakewood, CA 90712

3-19-09  
Date:

**I certify that I have read and understand the operating limitations and conditions that are a part of the special airworthiness certificate, FAA Form 8130-7, issued on 03/19/2008 for the purposes of research and development and/or crew training.**

**This special airworthiness certificate is issued for Italian Predator model of UPA97000-32 UAS, serial number IP05, registration number N374AX.**



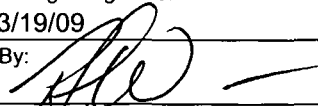
Gary Bender

19 Mar 09  
Date:


Director, Flight Operations

General Atomics, Aeronautical Systems Incorporated



Conformity Inspection Record			1. Project Number, TIA/Request Date: n/a		2. SHEET of Sheets 1 of 2	
3. Applicant/Manufacturer: General Atomics, ASI			4. Beginning Date: 3/19/09		5. Ending Date: 3/19/09	
6. Model: Italian Pred A ser# IP05			7. Inspected By: R Winn  ANM-108L			
8. Item No.	9. Nomenclature of Item Inspected	10. Drawing, Document, Specification, etc.	11. Revision and Date	12. No. of Items Determined		13. Comments
				SAT.	UNSAT.	
1	Application for Airworthiness Certification	FAA Form 8130-6	(10-04)	1		reviewed for proper format signed by: Gary Bender, Director of Flight Operations Facilities Dtd: 3/19/2009
2	Program Letter	Report No.: ASi-03009	Dtd: 3/16/2009 Rev: B	1		GA-ASI Italian Predator Experimental Certification
3	Documented UAS Inspection	Per ORDER 8130.34 Sect. 2 (3)(b)(1)	3/27/2008	1		Aircraft nationality and registration marks are in accordance with part 45 or alternate marking approval from AIR-200
4	Documented UAS Inspection	Per ORDER 8130.34 Sect. 2 (3)(b)(2)	3/27/2008	1		The flight control system operates properly
5	Documented UAS Inspection	Per ORDER 8130.34 Sect. 2 (3)(b)(3)	3/27/2008	1		The engine(s), propeller(s) and associated instruments operate in accordance with the manufacturer's instructions
6	Documented UAS Inspection	Per ORDER 8130.34 Sect. 2 (3)(b)(4)	3/27/2008	1		The pitot-static and transponder inspections have been certified in accordance with §91.411, Altimeter system and altitude reporting equipment tests and inspections, and §91.413, ATC transponder tests and inspections. In addition associated equipment must operate properly. Air Data Test, Maint/ Log entry dated 3-9-09 for certification attached.
7	Documented UAS Inspection	Per ORDER 8130.34 Sect. 2 (3)(b)(5)	3/27/2008	1		All elements of the control station operate properly as demonstrated by normal preflight operational checks of the UA.
8	UA Airworthiness Inspection	FWD Avionics Bay	n/a	1		Visual inspection for evidence of FOD/FOP, proper routing/installation of wiring, tubing ducting and associated hardware.



Conformity Inspection Record			1. Project Number, TIA/Request Date: n/a		2. SHEET of Sheets 2 of 2	
3. Applicant/Manufacturer: General Atomics, ASI			4. Beginning Date: 3/19/09		5. Ending Date: 3/19/09	
6. Model: Italian Pred A ser# IP05			7. Inspected By: R Winn  ANM-108L			
8. Item No.	9. Nomenclature of Item Inspected	10. Drawing, Document, Specification, etc.	11. Revision and Date	12. No. of Items Determined SAT.      UNSAT.		13. Comments
9	UA Airworthiness Inspection	Left/Right Wing	n/a	1		Visual inspection for evidence of FOD/FOP, surface delamination, flap and aileron alignment, security of access panels and operation of pitot heat, nav lites and flight controls.
10	UA Airworthiness Inspection	AFT Avionics Bay	n/a	1		Visual inspection for evidence of FOD/FOP, proper routing/installation of wiring, tubing ducting and associated hardware.
11	UA Airworthiness Inspection	Engine/Propeller Assy	n/a	1		Visual inspection for evidence of FOD/FOP, proper installation/routing of wiring, and security/installation of associated hardware. Confirmed minor blade nick (1) was documented and dispositioned for flt. release.
12	UA Airworthiness Inspection	Main Landing Gear Assy	n/a	1		Visual inspection for evidence of FOD/FOP, condition of tire and brake assy's, associated hardware, inspected composite struts for evidence of fatigue cracks or excessive wear.
13	UA Airworthiness Inspection	DATA Plate	n/a	1		Model: UPA97000-32 Mfg Date: May 2004 Ser No: IP05 Engine: Rotax 914 Reg. No.: N734AX Mfg By: General Atomics Aeronautical
14	Documented UAS Inspection	Per ORDER 8130.34 Sect. 2 (3)(c)(1)(a)	3/27/2008	1		Make an entry in the maintenance records. Copy Attached
15	Documented UAS Inspection	Per ORDER 8130.34 Sect. 2 (3)(c)(1)(b)	3/27/2008	1		Issue Form 8130-7, with Operating Limitations copy(s) attached
16/17	Documented UAS Inspection	Per ORDER 8130.34 Sect. 2 (3)(c)(1)(c)(d)	3/27/2008	1		Complete sections V and VIII of form 8130-6 according instructions in chapter 8 of order 8130.2. As evidenced by original form included with this report.

